

<b>BORING NO.</b>	<b>AD-1a</b>	Drilling Firm	Pennsylvania Drilling				
Project	North Park Lake	Driller	Bill Minor				
Date Started	10/3/2002	Inspector	Mark Cruickshank				
Date Completed	10/3/2002	Surface Elevation	960 MSL				
Drill Type	Hollow Stem Auger	Top Sample Elevation	958.5 MSL				
Time	1615	Bottom Sample Elevation	955.5 MSL				
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH				
Weather	Sunny, 80° F	Location	N 466994.163				
			E 1342993.927				

  

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes				
0.5	WATER										
1.0											
1.5											
2.0	SILTY CLAY - light grey, high moisture, very soft, silt -15%, clay - 85%, increased density and plasticity with depth	CL	15	1		SS-1a (1645)	0 ppm				
2.5				1							
3.0				1							
3.5				1							
4.0			15	1					0 ppm		
4.5				1							
5.0			Total Depth = 4.5 ft.								
5.5											
6.0											
6.5											
7.0											
7.5											
8.0											
8.5											
9.0											
9.5											
10.0											



<b>BORING NO.</b>		<b>AD-1b</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/4/2002	Inspector		Mark Cruickshank			
Date Completed		10/4/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		958.5 MSL			
Time		0800	Bottom Sample Elevation		950.5 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny, 65° F	Location		N 466933.630			
					E 1343064.041			
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes	
0.5	WATER							
1.0								
1.5								
2.0	CLAYEY SILT - grey, high moisture, very soft, abundant organic material (sticks, leaves) from 2-2.5'	ML	10	0		SS-1b (0830)	0 ppm	
2.5				0				
3.0				0				
3.5				0				
4.0			15	0				0 ppm
4.5				0				
5.0				0				
5.5				0				
6.0	CLAY - greenish grey, high moisture, soft, high plasticity	CH	75	0			0 ppm	
6.5				0				
7.0				0				
7.5				0				
8.0			95	0				0 ppm
8.5				0				
9.0				1				
9.5				1				
10.0	Total Depth = 9.5 ft.							



<b>BORING NO.</b>		<b>AD-1c</b>	Drilling Firm		Pennsylvania Drilling				
Project		North Park Lake	Driller		Bill Minor				
Date Started		10/4/2002	Inspector		Mark Cruickshank				
Date Completed		10/4/2002	Surface Elevation		960 MSL				
Drill Type		Hollow Stem Auger	Top Sample Elevation		957 MSL				
Time		0845	Bottom Sample Elevation		948 MSL				
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH				
Weather		Sunny 65° F	Location		N 467069.991				
					E 1343551.028				
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings, Notes</b>	<b>Lab Results</b>	
0.5	WATER								
1.0									
1.5									
2.0									
2.5									
3.0									
3.5	CLAY - greenish grey, high moisture content, very soft, low plasticity	CL	75	0	AD-1c (0900)	SS-1c, PS-1, TS-1 (0930)	0 ppm	%w = 101.5	
4.0				0					
4.5				0					
5.0				0					
5.5			75	0	AD-1c (0910)		0 ppm	%w = 84.9	
6.0				0					
6.5				0					
7.0				0					
7.5			75	0	AD-1c (0920)		0 ppm	%w = 53.2	
8.0				0					
8.5				1					
9.0				0					
9.5			75	1	AD-1c (0930)		0 ppm, TS-1 VOC sample collected at 10.5'	%w = 23.6; LiquidLimit = 24%; Plastic Limit = 18%; Plasticity Index = 8%; Specific Gravity = 2.66; and Organic Content = 2%	
10.0				0					
10.5				1					
11.0				0					
11.5	SILTY SAND - greenish grey, high moisture, very loose, poorly graded, clay - 21%, silt- 34%, sand - fine-med grained - 45%	SM		1			0 ppm		
12.0				1					
12.5	Total Depth = 12 ft.								



<b>BORING NO.</b>	<b>AD-1d</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/3/2002	Inspector	Mark Cruickshank
Date Completed	10/3/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	957 MSL
Time	1650	Bottom Sample Elevation	950 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny, 80° F	Location	N 466980.713
			E 1343100.291

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5	ORGANIC DEBRIS - sticks, leaves	OL	10	0		SS-1d (1730)	0 ppm
4.0	CLAY - greenish grey, high moisture, very soft, moderate plasticity	CH		0			
4.5				0			
5.0				0			
5.5			10	0			0 ppm
6.0				0			
6.5				0			
7.0				0			
7.5			85	0			0 ppm
8.0				0			
8.5				0			
9.0				0			
9.5			85	0			0 ppm
10.0				0			
10.5	Total Depth = 10 ft.						





<b>BORING NO.</b>	<b>AD-2a</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/7/2002	Inspector	Mark Cruickshank
Date Completed	10/7/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	957 MSL
Time	0850	Bottom Sample Elevation	947 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Cloudy 50° F	Location	N 467182.520
			E 1343490.424

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5	CLAY - greenish grey, high moisture, slight plasticity, increased plasticity, density with depth, moderate plasticity at 4.5', 4" clayey sand layer at 9'	CL	10	0	AD-2a (0910)	SS-2a (0950)	0 ppm	%w = 68
4.0				0				
4.5				0				
5.0				0				
5.5			20	0	AD-2a (0915)		0 ppm	%w = 68.9
6.0				0				
6.5				0				
7.0				0				
7.5			25	0	AD-2a (0920)		0 ppm	%w = 78.4
8.0				0				
8.5				0				
9.0				0				
9.5			95	0	AD-2a (0935)		0 ppm	%w = 47.58
10.0				0				
10.5				0				
11.0				0				
11.5			95	0	AD-2a (0940)		0 ppm	%w = 22.3
12.0				0				
12.5				0				
13.0				0				
13.5	Total Depth = 13 ft.							



<b>BORING NO.</b>		<b>AD-2b</b>	Drilling Firm		Pennsylvania Drilling		
Project		North Park Lake	Driller		Bill Minor		
Date Started		10/7/2002	Inspector		Mark Cruickshank		
Date Completed		10/7/2002	Surface Elevation		960 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		956 MSL		
Time		1010	Bottom Sample Elevation		947 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Cloudy 50° F	Location		N 467269.990		
					E 1343521.979		
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5	CLAY - greenish grey, high moisture, slight plasticity, increased plasticity, density with depth	CL	10	0		SS-2b (1050)	0 ppm
5.0				0			
5.5				0			
6.0				0			
6.5			10	0			0 ppm
7.0				0			
7.5				0			
8.0				0			
8.5			95	0			0 ppm
9.0				0			
9.5				0			
10.0				0			
10.5			95	1			0 ppm
11.0				1			
11.5				1			
12.0				3			
12.5	CLAYEY SAND - light brown, high moisture, loose, poorly graded, clay - 25%, sand - fine grained - 75%	SC	95	5			0 ppm
13.0				5			
13.5	Total Depth =13 ft.						



<b>BORING NO.</b>		<b>AD-2c</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/7/2002	Inspector		Mark Cruickshank			
Date Completed		10/7/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		956 MSL			
Time		1112	Bottom Sample Elevation		946 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Cloudy 50° F	Location		N 467309.111			
					E 1343823.506			
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings , Notes</b>	<b>Lab Results</b>
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	CLAY - greenish grey, high moisture, slight plasticity, increased plasticity, density with depth	CL	15	0	AD-2c (1120)	SS-2c (1155)	0 ppm	%w = 81.1
5.0				0				
5.5				0				
6.0				0				
6.5			15	0	AD-2c (1125)		0 ppm	%w = 72.6
7.0				0				
7.5				0				
8.0				0				
8.5			95	0	AD-2c (1135)		0 ppm	%w = 61.9
9.0				0				
9.5				0				
10.0				0				
10.5			95	0	AD-2c (1150)		0 ppm	%w = 46.3
11.0				0				
11.5				0				
12.0				0				
12.5	CLAYEY SAND - light brown, high moisture, loose, poorly graded, clay - 30%, sand - fine grained - 70%	SC	75	0	AD-2c (1120)		0 ppm	%w = 40.8
13.0				0				
13.5				0				
14.0				0				
14.5				0				
14.5	Total Depth = 14 ft.							



<b>BORING NO.</b>	<b>AD-2d</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/7/2002	Inspector	Mark Cruickshank
Date Completed	10/7/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	956 MSL
Time	1310	Bottom Sample Elevation	945 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Cloudy 50° F	Location	N 467304.246 E 1343937.497

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	CLAY - greenish grey, high moisture, slight plasticity, increased plasticity, density with depth	CL	25	0	AD-2d (1320)	SS-2d, PS-2, TS-2 (1350)	0 ppm	%w = 82.2
5.0				0				
5.5				0				
6.0				0				
6.5			25	0	AD-2d (1335)		0 ppm	%w = 53.5
7.0				0				
7.5				0				
8.0				0				
8.5			95	0	AD-2d (1340)		0 ppm	%w = 46.5
9.0				0				
9.5				0				
10.0				0				
10.5			95	0	AD-2d (1345)		0 ppm	%w = 52.5
11.0				0				
11.5				0				
12.0				0				
12.5			95	0	AD-2d (1350)		0 ppm, TS-2 VOC sample taken at 13'	%w = 28.1; LiquidLimit = 23%; Plastic Limit = 16%; Plasticity Index = 7%; Specific Gravity = 2.66; and Organic Content = 1.6%
13.0				0				
13.5				0				
14.0				0				
14.5	CLAY - greenish grey, high moisture, slight plasticity	CL	95	0		0 ppm		
15.0				0				
15.5	Total Depth = 15'							





<b>BORING NO.</b>	<b>AD-3a</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/4/2002	Inspector	Mark Cruickshank
Date Completed	10/4/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	953 MSL
Time	1420	Bottom Sample Elevation	945 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 80° F	Location	N 467605.550
			E 1343994.969

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5	CLAY - greenish grey, high moisture, very soft, low plasticity, slight increased density with depth	CL	25	0	AD-3a (1430)	SS-3a, PS-3, TS-3 (1510)	0 ppm	%w = 79.4
8.0				0				
8.5				0				
9.0				0				
9.5			25	0	AD-3a (1435)		0 ppm	%w = 82.8
10.0				0				
10.5				0				
11.0				0				
11.5			75	0	AD-3a (1445)		0 ppm	%w = 59.1
12.0				0				
12.5				0				
13.0				0				
13.5			60	0	AD-3a (1510)		0 ppm, TS-3 VOC sample collected at 13.5'	%w = 62.2
14.0				0				
14.5				0				
15.0				0				
15.5	Total Depth = 15 ft.							

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes	Lab Results





<b>BORING NO.</b>	<b>AD-3b</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/4/2002	Inspector	Mark Cruickshank
Date Completed	10/4/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	953 MSL
Time	1322	Bottom Sample Elevation	943 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 80° F	Location	N 467520.051
			E 1344232.053

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5	CLAY - greenish grey, high moisture, very soft, low plasticity, slight increased density with depth, trace organic debris, moderate plasticity at 5.5'	CL	25	0	AD-3b (1330)	SS-3b (1405)	0 ppm	%w = 108.9
8.0				0				
8.5				0				
9.0				0				
9.5			50	0	AD-3b (1335)		0 ppm	%w = 77.1
10.0				0				
10.5				0				
11.0				0				
11.5			75	0	AD-3b (1345)		0 ppm	%w = 60.6
12.0				0				
12.5				0				
13.0				0				
13.5			95	0	AD-3b (1350)		0 ppm	%w = 37.7
14.0				0				
14.5				0				
15.0				0				
15.5			75	0	AD-3b (1356)		0 ppm	%w = 26.6; LiquidLimit = 38%; Plastic Limit = 22%; Plasticity Index = 16%; Specific Gravity = 2.64; and Organic Content = 2.6%
16.0				0				
16.5				0				
17.0				SILTY SAND - greenish grey, moderate moisture, loose, poorly graded, silt - 25%, sand- fine grained - 75%				

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
17.5	Total Depth = 17 ft.							

<b>BORING NO.</b>	<b>AD-3c</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/4/2002	Inspector	Mark Cruickshank
Date Completed	10/4/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	953 MSL
Time	1031	Bottom Sample Elevation	947MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 65° F	Location	N 467383.078
			E 1344355.594

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5	CLAY - greenish grey, high moisture, very soft, low plasticity, slight increased density with depth	CL	25	0			0 ppm
8.0				0			
8.5				0			
9.0				0			
9.5			25	0		SS-3c (1130)	0 ppm
10.0				0			
10.5				0			
11.0				0			
11.5			75	0			0 ppm
12.0				0			
12.5				0			
13.0				0			
13.5	Total Depth = 13 ft.						





<b>BORING NO.</b>		<b>AD-3d</b>	Drilling Firm		Pennsylvania Drilling		
Project		North Park Lake	Driller		Bill Minor		
Date Started		10/4/2002	Inspector		Mark Cruickshank		
Date Completed		10/4/2002	Surface Elevation		960 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		953 MSL		
Time		0955	Bottom Sample Elevation		949 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Sunny 65° F	Location		N 467554.320		
					E 1344490.890		
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5	CLAY - greenish grey, high moisture, very soft, low plasticity, slight increased density from 6' to 7'	CL	25	0		SS-3d (1020)	0 ppm
8.0				0			
8.5				0			
9.0				0			
9.5			75	0			0 ppm
10.0				0			
10.5				0			
11.0				0			
11.5	Total Depth = 11 ft.						



<b>BORING NO.</b>		<b>AD-4a</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/8/2002	Inspector		Mark Cruickshank			
Date Completed		10/8/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		953 MSL			
Time		1100	Bottom Sample Elevation		941 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny 45° F	Location		N 467632.259			
					E 1344347.416			
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings, Notes</b>	<b>Lab Results</b>
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5	CLAY - greenish grey, high moisture, very soft, increased density with depth, 2" section with medium grained sand at 7'	CL	95	0	AD-4a (1110)	TS-4 (1140) SS-4a, PS-4 (1150)	0 ppm	%w = 82.8
8.0				0				
8.5				0				
9.0				0				
9.5			75	5	AD-4a (1113)		0 ppm	%w = 55.7
10.0				2				
10.5				2				
11.0				1				
11.5			75	1	AD-4a (1120)		0 ppm	%w = 86.8
12.0				2				
12.5				6				
13.0				18				
13.5			75	8	AD-4a (1130)		0 ppm	%w = 49.7
14.0				16				
14.5				13				
15.0				8				
15.5			75	6	AD-4a (1140)		0 ppm, TS-4 VOC sample collected at 16'	%w = 40.8
16.0				18				
16.5				20				
17.0				25				
17.5	Silty sandy CLAY - grey, moderate moisture, soft, clay - 28%, silt - 48%, sand - fine to medium grained - 24%	CL	50	5	AD-4a (1150)		0 ppm	%w = 28.7; Liquid Limit = 30%; Plastic Limit = 17%; Plasticity Index = 13%; Specific Gravity = 2.63; and Organic Content = 2.3%
18.0				0				
18.5				0				
19.0				0				
19.5	Total Depth = 19 ft.							

<b>BORING NO.</b>		<b>AD-4b</b>		Drilling Firm		Pennsylvania Drilling		
Project		North Park Lake		Driller		Bill Minor		
Date Started		10/8/2002		Inspector		Mark Cruickshank		
Date Completed		10/8/2002		Surface Elevation		960 MSL		
Drill Type		Hollow Stem Auger		Top Sample Elevation		951 MSL		
Time		0920		Bottom Sample Elevation		940 MSL		
Sample Method		2" X 2' Split Spoon		Datum for Surface El.		NOAH		
Weather		Sunny 45° F		Location		N 467899.013		
						E 1344375.021		
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings , Notes</b>	<b>Lab Results</b>
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5								
8.0								
8.5								
9.0								
9.5	CLAY - greenish grey, high moisture, very soft, increased density with depth, trace gravel, sections mottled with black clay	CL	75	0	AD-4b (0930)	SS-4b (1035)	0 ppm	%w = 77.5
10.0				0				
10.5				0				
11.0				0				
11.5			95	5	AD-4b (0940)		0 ppm	%w = 25.3
12.0				2				
12.5				2				
13.0				1				
13.5			95	1	AD-4b (1005)		0 ppm	%w = 13.8
14.0				2				
14.5				6				
15.0				18				
15.5	Silty CLAY to clayey SILT w/sand and gravel - brown, moderate moisture, medium dense, mottled, cemented, poorly graded, clay - 42%, silt 43%, sand - fine to medium grained - 15% and gravel - 0%. Note: percentages from laboratory test, some gravel size particles were observed.	CL	95	8	AD-4b (1020)		0 ppm	%w = 15.8
16.0				16				
16.5				13				
17.0				8				
17.5			95	6	AD-4b (1030)		0 ppm	%w = 16.6; Liquid Limit = 29%; Plastic Limit = 17%; Plasticity Index = 12%; Specific Gravity = 2.71; and Organic Content = 1.6%
18.0				18				
18.5				20				
19.0				25				
19.5	95	5	0 ppm					
20.0		0						
20.5	Total Depth = 20 ft.							

<b>BORING NO.</b>	<b>AD-4c</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/8/2002	Inspector	Mark Cruickshank
Date Completed	10/8/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	953 MSL
Time	0805	Bottom Sample Elevation	942 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Foggy 40° F	Location	N 467666.137
			E 1344355.209

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5	CLAY - greenish grey, high moisture, very soft, increased density with depth	CL	25	0	AD-4c (0820)	SS-4c (0850)	0 ppm	%w = 103.5
8.0				0				
8.5				0				
9.0				0				
9.5			25	0	AD-4c (0825)		0 ppm	%w = 55.5
10.0				0				
10.5				0				
11.0				0				
11.5			95	0	AD-4c (0835)		0 ppm	%w = 91.3
12.0				0				
12.5				0				
13.0				0				
13.5			95	0	AD-4c (0840)		0 ppm	%w = 77.4
14.0				0				
14.5				0				
15.0				0				
15.5	CLAY - greenish grey, moderate moisture, soft, high plasticity	CH	95	0	AD-4c (0850)		0 ppm	%w = 26.8
16.0				0				
16.5				0				
17.0				0				
17.5			95	0			0 ppm	
18.0				0				
Hollow Stem Auger Boring Log								
North								

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
18.5	Total Depth = 18 ft.							







<b>BORING NO.</b>		<b>AD-4d</b>	Drilling Firm			Pennsylvania Drilling	
Project		North Park Lake	Driller			Bill Minor	
Date Started		10/7/2002	Inspector			Mark Cruickshank	
Date Completed		10/7/2002	Surface Elevation			960 MSL	
Drill Type		Hollow Stem Auger	Top Sample Elevation			952 MSL	
Time		1500	Bottom Sample Elevation			947 MSL	
Sample Method		2" X 2' Split Spoon	Datum for Surface El.			NOAH	
Weather		Cloudy 50° F	Location			N 467980.542	
						E 1344498.963	

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5							
8.0							
8.5	CLAY - greenish grey, high moisture, low plasticity, increased plasticity, density with depth	CL	15	0		SS-4d (1600)	0 ppm
9.0				0			
9.5				0			
10.0				0			
10.5			75	0			0 ppm
11.0				0			
11.5				0			
12.0				0			
12.5			95	0			0 ppm
13.0				0			
13.5	Total Depth = 13'						



<b>BORING NO.</b>		<b>AD-5a</b>	Drilling Firm		Pennsylvania Drilling		
Project		North Park Lake	Driller		Bill Minor		
Date Started		10/3/2002	Inspector		Mark Cruickshank		
Date Completed		10/3/2002	Surface Elevation		960 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		951 MSL		
Time		0900	Bottom Sample Elevation		948 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Overcast 65° F	Location		N 468405.179		
					E 1343868.043		
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings, Notes</b>
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5							
8.0							
8.5							
9.0	CLAY - greenish grey, high moisture, very soft, low plasticity, increased density with depth, increased plasticity	CL	75	0	SS-5a, SS-10a (dup) (0920)	0 ppm	
9.5				0			
10.0				0			
10.5				0			
11.0			75	0		0 ppm	
11.5				0			
12.0							
12.5	Total Depth = 12 ft.						



<b>BORING NO.</b>		<b>AD-5b</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/3/2002	Inspector		Mark Cruickshank			
Date Completed		10/3/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		950 MSL			
Time		1000	Bottom Sample Elevation		942 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Overcast 65° F	Location		N 468320.040			
					E 1344086.743			
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5								
8.0								
8.5								
9.0								
9.5								
10.0								
10.5	CLAY - greenish grey, high moisture, very soft, low plasticity, increased density and plasticity with depth, decreased moisture with depth	CL	25	0	AD-5b (1015)	SS-5b, SS-10b (dup) (1010)	0 ppm	%w = 151.4
11.0				0				
11.5				0				
12.0				0				
12.5			25	0	AD-5b (1018)		0 ppm	%w = 155.3
13.0				0				
13.5				0				
14.0				0				
14.5			95	0	AD-5b (1040)		0 ppm	%w = 122.7
15.0				0				
15.5				0				
16.0				0				
16.5			95	1	AD-5b (1050)		0 ppm	%w = 38
17.0				0				
17.5				0				
18.0				0				
18.5	Total Depth = 18 ft.							



<b>BORING NO.</b>		<b>AD-5c</b>		Pennsylvania Drilling			
Project		North Park Lake		Bill Minor			
Date Started		10/3/2002		Mark Cruickshank			
Date Completed		10/3/2002		960 MSL			
Drill Type		Hollow Stem Auger		950 MSL			
Time		1145		940 MSL			
Sample Method		2" X 2' Split Spoon		NOAH			
Weather		Overcast 70° F		N 468043.342			
				E 1344417.377			
Depth	Description	USCS	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5							
8.0							
8.5							
9.0							
9.5							
10.0	CLAY - greenish grey, high moisture, very soft, low plasticity increased density and plasticity with depth, decreased moisture with depth, clay - 55%, silt - 35%, sand - 9%, 2" sandy clay section at 17.5'	CL	0	AD-5c (1200)	SS-5c, SS-10c (dup) (1300)	0 ppm	%w = 105.6
10.5			0				
11.0			0				
11.5			0				
12.0			0	AD-5c (1205)		0 ppm	%w = 124.8
12.5			0				
13.0			0				
13.5			0				
14.0			0	AD-5c (1220)		0 ppm	%w = 91
14.5			0				
15.0			0				
15.5			0				
16.0			0	AD-5c (1230)		0 ppm	%w = 30.3
16.5			1				
17.0			0				
17.5			1				
18.0			0	AD-5c (1240)		0 ppm	%w = 27.6; LiquidLimit = 46%; Plastic Limit = 25%; Plasticity Index = 21%; Specific Gravity = 2.69; and Organic Content = 3.7%
18.5			5				
19.0			3				
19.5			1				
20.0	1						
20.5	Total Depth = 20 ft.						

Depth	Description	USCS	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
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<b>BORING NO.</b>	<b>AD-5d</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/3/2002	Inspector	Mark Cruickshank
Date Completed	10/3/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	952 MSL
Time	1400	Bottom Sample Elevation	944 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 80° F	Location	N 468051.036 E 1344497.421

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5								
8.0								
8.5	CLAY - greenish grey, high moisture, very soft, low plasticity increased density and plasticity with depth, decreased moisture with depth, 2" sandy clay section at 17.5', cemented sand at 16', poorly graded	CL	10	0	AD-5d (1410)	SS-5d, SS-10d (dup), PS-5, TS-5, PS-10 (dup), TS-10 (dup) (1500)	0 ppm	%w = 145.1
9.0				0				
9.5				0				
10.0				0				
10.5			10	0	AD-5d (1415)		0 ppm	%w = 100.9
11.0				0				
11.5				0				
12.0				0				
12.5			95	0	AD-5d (1425)		0 ppm	%w = 91.4
13.0				0				
13.5				0				
14.0				0				
14.5			95	0	AD-5d (1445)		0 ppm, TS-5, TS-10 (dup) VOC sample collected at 15.5'	%w = 20.9
15.0				0				
15.5				20				
16.0				35				

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
16.5	Total Depth = 16 ft.							





<b>BORING NO.</b>		<b>AD-6a</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/2/2002	Inspector		Mark Cruickshank			
Date Completed		10/2/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		953 MSL			
Time		1420	Bottom Sample Elevation		949 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny 80° F	Location		N 469546.776			
					E 1342955.350			
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings , Notes</b>	<b>Lab Results</b>
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5	SILTY CLAY - olive grey, high moisture, soft, moderate plasticity, clay - 47%, silt 40%, sand 13%.	CL	65	0	AD-6a (1445)	SS-6a (1445)	0 ppm	%w = 59.2; LiquidLimit = 47%; Plastic Limit = 22%; Plasticity Index = 25%; Specific Gravity = 2.70; and Organic Content = 4.7%
8.0				1				
8.5				2				
9.0				3				
9.5			65	2			0 ppm	
10.0				2				
10.5				3				
11.0				3				
11.5	Total Depth = 11 ft.							



<b>BORING NO.</b>		<b>AD-6b</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/2/2002	Inspector		Mark Cruickshank			
Date Completed		10/2/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		952.75 MSL			
Time		1515	Bottom Sample Elevation		947.25 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny 80° F	Location		N 469350.595			
					E 1343022.279			
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5	CLAYEY SILT - greenish grey, high moisture, very soft, increased silt towards top, 10 % clay, 90% silt	ML	50	1	AD-6b (1530)	SS-6b (1545)	0 ppm	%w = 59.2
8.0				3				
8.5				3				
9.0	Silty CLAY - greenish grey, moderate moisture, soft to firm, high plasticity, trace silt, clay - 44%, silt - 42%, sand 14%.	CL		4	AD-6b (1545)		0 ppm	%w = 34.5; LiquidLimit = 42%; Plastic Limit = 23%; Plasticity Index = 19%; Specific Gravity = 2.68; and Organic Content = 4.1%
9.5			3					
10.0			4					
10.5			4					
11.0			4					
11.5			85	7			0 ppm	
12.0				5				
12.5	Total Depth = 12.25 ft.							





<b>BORING NO.</b>	<b>AD-6c</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/2/2002	Inspector	Mark Cruickshank
Date Completed	10/2/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	951 MSL
Time	1605	Bottom Sample Elevation	944 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 80° F	Location	N 469197.804
			E 1343252.276

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5								
5.0								
5.5								
6.0								
6.5								
7.0								
7.5								
8.0								
8.5								
9.0								
9.5	CLAYEY SILT - greenish grey, high moisture, soft, high plasticity, increased density with depth, upper 1' very soft	CH	75	0	AD-6c (1615)	SS-6c (1715)	0 ppm	%w = 74.5
10.0				0				
10.5				4				
11.0				1				
11.5	CLAYEY SAND w/gravel - light brown, moderate moisture, loose, moderately graded, clay - 28%, silt - 20%, sand fine to coarse grained - 42%, gravel - 10%	SC	75	0	AD-6c (1645)		0 ppm	%w = 18.2
12.0				1				
12.5				4				
13.0				6				
13.5	CLAY - green, slightly moist, stiff, refusal with hammer at 4',	CL	10	50/refusal	AD-6c (1710)		0 ppm, collected geotech/chem sample from augers due to refusal of split spoon	%w = 19.5; LiquidLimit = 34%; Plastic Limit = 19%; Plasticity Index = 15%; Specific Gravity = 2.68; and Organic Content = 3.5%
14.0								
14.5								
15.0								
15.5								
16.0								
16.5	Total Depth = 16 ft.							



<b>BORING NO.</b>		<b>AD-6d</b>	Drilling Firm		Pennsylvania Drilling		
Project		North Park Lake	Driller		Bill Minor		
Date Started		10/2/2002	Inspector		Mark Cruickshank		
Date Completed		10/2/2002	Surface Elevation		960 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		952 MSL		
Time		1735	Bottom Sample Elevation		948 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Sunny 80° F	Location		N 468480.759		
					E 1343816.516		
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5							
8.0							
8.5	CLAY - greenish grey, high moisture, very soft, low plasticity	CL	75	0		SS-6d (1745) PS-6, TS-6 (1745)	0 ppm
9.0				0			
9.5				0			
10.0				0			
10.5			80	1			0 ppm, TS-6 VOC sample collected at 11'
11.0				2			
11.5				2			
12.0	CLAYEY SAND - dark brown, moderate moisture, loose, poorly graded, 5% clay, 95% medium grained sand	SC		1			
12.5	Total Depth = 12 ft.						



<b>BORING NO.</b>		<b>AD-7a</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/2/2002	Inspector		Mark Cruickshank			
Date Completed		10/2/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		956 MSL			
Time		1000	Bottom Sample Elevation		952 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny 65° F	Location		N 469976.384			
					E 1342720.690			

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	SILTY CLAY - olive grey, high moisture, very soft, low plasticity, 35% silt, 65 % clay	CL	40	8	AD-7a (1015)	SS-7a (1015)	0 ppm	%w = 14.8
5.0	Gravelly clayey SAND to sandy clayey GRAVEL - reddish orange, moderate moisture, dense, well graded, gravel - 36%, sand fine to coarse grained - 36%, silt - 15%, clay 13%.	SC - GC		12				
5.5				16				
6.0				15				
6.5			75	13	AD-7a (1025)			
7.0				11				
7.5				10				
8.0				16				
8.5	Total Depth = 8 ft.							
9.0								
9.5								
10.0								



<b>BORING NO.</b>		<b>AD-7b</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/2/2002	Inspector		Mark Cruickshank			
Date Completed		10/2/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		955 MSL			
Time		0910	Bottom Sample Elevation		952 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny 65° F	Location		N 470172.025			
					E 1342791.996			

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results			
0.5	WATER										
1.0											
1.5											
2.0											
2.5											
3.0											
3.5											
4.0											
4.5											
5.0											
5.5	SILT - greenish grey, high moisture, very soft, non plastic	OL	60	1	AD-7b (0925)	SS-7b (MS/MSD) (0925)	0 ppm	%w = 43.2; LiquidLimit = 38%; Plastic Limit = 20%; Plasticity Index = 18%; Specific Gravity = 2.65; and Organic Content = 4.4%			
6.0	Silty CLAY to clayey SILT w/sand - greenish grey, high moisture, soft, low plasticity, clay - 38%, silt 47%, sand - 14%	CL		2							
6.5				2							
7.0				1							
7.5				2			0 ppm				
8.0			85	1							
8.5	Total Depth = 8 ft.										
9.0											
9.5											
10.0											





<b>BORING NO.</b>		<b>AD-7c</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/2/2002	Inspector		Mark Cruickshank			
Date Completed		10/2/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		956 MSL			
Time		0800	Bottom Sample Elevation		952 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Sunny 65° F	Location		N 470321.949			
					E 1342929.874			
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings , Notes</b>	<b>Lab Results</b>
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	CLAY - yellowish orange, moderate moisture, soft, high plasticity	CH	85	2	AD-7c (0810)		0 ppm	%w = 22.8
5.0				2				
5.5				3				
6.0	CLAYEY SAND - yellowish orange, high moisture, medium dense, poorly graded, clay - 20%, silt - 29%, sand fine to medium grained - 50%, gravel - 2%.	SC	80	4	AD-7c (0820)	SS-7C (0830)	0 ppm	%w = 20.1; LiquidLimit = 26%; Plastic Limit = 25%; Plasticity Index = 11%; Specific Gravity = 2.66; and Organic Content = 1.4%
6.5				8				
7.0				5				
7.5				4				
8.0				3				
8.5	Total Depth = 8 ft.							
9.0								
9.5								
10.0								



<b>BORING NO.</b>		<b>AD-7d</b>	Drilling Firm		Pennsylvania Drilling				
Project		North Park Lake	Driller		Bill Minor				
Date Started		10/2/2002	Inspector		Mark Cruickshank				
Date Completed		10/2/2002	Surface Elevation		960 MSL				
Drill Type		Hollow Stem Auger	Top Sample Elevation		953 MSL				
Time		1220	Bottom Sample Elevation		950 MSL				
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH				
Weather		Sunny 75° F	Location		N 469577.900				
					E 1343093.388				
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings , Notes</b>	<b>Lab Results</b>	
0.5	WATER								
1.0									
1.5									
2.0									
2.5									
3.0									
3.5									
4.0									
4.5									
5.0									
5.5									
6.0									
6.5									
7.0									
7.5	SILTY CLAY w/trace sand - olive green, high moisture, very soft, moderate-high plasticity, clay - 62% silt 32% sand - 5%.	CH	25	1	AD-7d (1255)	SS-7d (1255) PS-7, TS-7 (1255)	0 ppm, TS-7 VOC sample collected at 8.5'	%w = 97.5; LiquidLimit = 59%; Plastic Limit = 25%; Plasticity Index = 34%; Specific Gravity = 2.68; and Organic Content = 4.2%	
8.0				1					
8.5				1					
9.0				1					
9.5			25	1			0 ppm		
10.0				1					
10.5	Total Depth = 10 ft.								



<b>BORING NO.</b>		<b>AD-8a</b>	Drilling Firm		Pennsylvania Drilling			
Project		North Park Lake	Driller		Bill Minor			
Date Started		10/1/2002	Inspector		Mark Cruickshank			
Date Completed		10/1/2002	Surface Elevation		960 MSL			
Drill Type		Hollow Stem Auger	Top Sample Elevation		955.75 MSL			
Time		1128	Bottom Sample Elevation		953.75 MSL			
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH			
Weather		Partly Cloudy, 75° F	Location		N 470891.366			
					E 1342266.549			
Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	Silty CLAY to clayey SILT w/sand and gravel - olive green, high moisture, very soft, moderate plasticity, clay 35%, silt 40%, sand 18%, gravel 7%.	CL	90	1	AD-8a (1215)	SS-8a (1215)	0 ppm	%w = 36.5; LiquidLimit = 40%; Plastic Limit = 20%; Plasticity Index = 20%; Specific Gravity = 2.67; and Organic Content = 3.0%
5.0				1				
5.5				2				
6.0	CLAYEY SAND - olive grey, high moisture, medium dense, clay -15%, poorly graded fine grained sand - 90%	SC		4				
6.5	Total Depth = 6.25 ft.							
7.0								
7.5								
8.0								
8.5								
9.0								
9.5								
10.0								



<b>BORING NO.</b>	<b>AD-8b</b>	Drilling Firm	Pennsylvania Drilling				
Project	North Park Lake	Driller	Bill Minor				
Date Started	10/1/2002	Inspector	Mark Cruickshank				
Date Completed	10/1/2002	Surface Elevation	960 MSL				
Drill Type	Hollow Stem Auger	Top Sample Elevation	955.5 MSL				
Time	1415	Bottom Sample Elevation	953.5 MSL				
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH				
Weather	Partly Cloudy 80° F	Location	N 470742.319				
			E 1342273.002				

  

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes	
0.5	WATER							
1.0								
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	CLAY - olive grey, high moisture, soft, high plasticity	CH	80	1		SS-8b (1430)	0 ppm	
5.0								
5.5								
6.0								
6.5		CLAYEY SAND - olive grey, moderate moisture, loose, poorly graded, clay - 15%, fine grained sand - 85%	SC		1			
7.0		Total Depth = 6.5 ft.						
7.5								
8.0								
8.5								
9.0								
9.5								
10.0								





<b>BORING NO.</b>	<b>AD-8c</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/1/2002	Inspector	Mark Cruickshank
Date Completed	10/1/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	955 MSL
Time	1506	Bottom Sample Elevation	953 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Partly Cloudy 80° F	Location	N 470656.364 E 1342389.990

  

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5	CLAY - olive grey, high moisture, soft, high plasticity, trace sand at lower 2"	CH	75	2		SS-8c (1515)	0 ppm
6.0							
6.5							
7.0							
7.5	Total Depth = 7 ft.						
8.0							
8.5							
9.0							
9.5							
10.0							



<b>BORING NO.</b>	<b>AD-8d</b>	Drilling Firm	Pennsylvania Drilling
Project	North Park Lake	Driller	Bill Minor
Date Started	10/1/2002	Inspector	Mark Cruickshank
Date Completed	10/1/2002	Surface Elevation	960 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	955 MSL
Time	1545	Bottom Sample Elevation	953 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 80° F	Location	N 470523.336 E 1342544.246

  

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5	CLAY - olive grey, high moisture, soft, high plasticity	CH	75	1		SS-8d (1600) PS-8, TS-8 (1610)	0 ppm, TS-8 VOC sample collected at 6.5'
6.0							
6.5	CLAYEY SAND - light brown, high moisture, slightly graded, loose, clay - 25%, fine to medium grained sand - 75%	SC		1			
7.0		2					
7.5	Total Depth = 7 ft.						
8.0							
8.5							
9.0							
9.5							
10.0							



<b>BORING NO.</b>		<b>AD-9a</b>	Drilling Firm		Pennsylvania Drilling		
Project		Marshall Lake	Driller		Bill Minor		
Date Started		10/9/2002	Inspector		Mark Cruickshank		
Date Completed		10/9/2002	Surface Elevation		989 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		984 MSL		
Time		1110	Bottom Sample Elevation		982 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Sunny 60° F	Location		N 473975.474		
					E 1338461.827		

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings, Notes					
0.5	WATER											
1.0												
1.5												
2.0												
2.5												
3.0												
3.5												
4.0												
4.5												
5.0												
5.5	CLAY - grey, high moisture, soft, moderate plasticity, 15% organics in upper 1", 5% gravel to 2"	CL	25	0		SS-9a (MS/MSD) (1145)	0 ppm					
6.0				0								
6.5				0								
7.0				0								
7.5	Total Depth = 7 ft.											
8.0												
8.5												
9.0												
9.5												
10.0												



<b>BORING NO.</b>	<b>AD-9b</b>	Drilling Firm	Pennsylvania Drilling
Project	Marshall Lake	Driller	Bill Minor
Date Started	10/9/2002	Inspector	Mark Cruickshank
Date Completed	10/9/2002	Surface Elevation	989 MSL
Drill Type	Hollow Stem Auger	Top Sample Elevation	979 MSL
Time	1210	Bottom Sample Elevation	974 MSL
Sample Method	2" X 2' Split Spoon	Datum for Surface El.	NOAH
Weather	Sunny 60° F	Location	N 474023.628
			E 1338467.749

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results	
0.5	WATER								
1.0									
1.5									
2.0									
2.5									
3.0									
3.5									
4.0									
4.5									
5.0									
5.5									
6.0									
6.5									
7.0									
7.5									
8.0									
8.5									
9.0									
9.5									
10.0	Silty sandy CLAY to clayey sandy SILT - grey, high moisture, very soft, low plasticity, 15% organics in upper 1", clay - 25%, silt - 37%, sand fine to medium - 36%, gravel to 2" - 2%.	CL	25	0	AD-9b (1220)	SS-9b (MS/MSD) (1230)	0 ppm	%w = 50.3	
10.5				0					
11.0				0					
11.5				0					
12.0			95	0	AD-9b (1225)		0 ppm	%w = 34.9; LiquidLimit = 30%; Plastic Limit = 20%; Plasticity Index = 10%; Specific Gravity = 2.72; and Organic Content = 2.3%	
12.5				0					
13.0				0					
13.5				0					
14.0			95	0					0 ppm
14.5				0					
15.0	0								
15.5	Total Depth = 15 ft.								

Depth	Description	USCS	% Rec.	Blow Count	Geotech Sample I.D. (time)	Chemical Sample I.D. (time)	P.I.D. Readings , Notes	Lab Results







<b>BORING NO.</b>		<b>AD-9c</b>	Drilling Firm		Pennsylvania Drilling		
Project		Marshall Lake	Driller		Bill Minor		
Date Started		10/9/2002	Inspector		Mark Cruickshank		
Date Completed		10/9/2002	Surface Elevation		989 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		979 MSL		
Time		1245	Bottom Sample Elevation		975 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Sunny 60° F	Location		N 474058.152		
					E 1338484.628		
</							



<b>BORING NO.</b>		<b>AD-9d</b>	Drilling Firm		Pennsylvania Drilling		
Project		Marshall Lake	Driller		Bill Minor		
Date Started		10/9/2002	Inspector		Mark Cruickshank		
Date Completed		10/9/2002	Surface Elevation		989 MSL		
Drill Type		Hollow Stem Auger	Top Sample Elevation		979 MSL		
Time		1310	Bottom Sample Elevation		976 MSL		
Sample Method		2" X 2' Split Spoon	Datum for Surface El.		NOAH		
Weather		Sunny 60° F	Location		N 474111.038		
					E 1338387.037		
<b>Depth</b>	<b>Description</b>	<b>USCS</b>	<b>% Rec.</b>	<b>Blow Count</b>	<b>Geotech Sample I.D. (time)</b>	<b>Chemical Sample I.D. (time)</b>	<b>P.I.D. Readings, Notes</b>
0.5	WATER						
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							
7.0							
7.5							
8.0							
8.5							
9.0							
9.5							
10.0							
10.5	SILTY CLAY - grey, high moisture, very soft, low plasticity, silt - 25%, clay - 75%	CL	95	0		SS-9d, PD-9d (1350)	0 ppm
11.0				0			
11.5	SILTY CLAYEY SAND - dark grey, high moisture, loose, poorly sorted, silt - 10%, clay - 15%, sand - fine to medium grained - 75%	SC		0			
12.0				0			
12.5		95	0	0 ppm			
13.0			0				
13.5	Total Depth = 13 ft.						

